

# Building Cisco Remote Access Networks

## Course Outline

### 1. Building Remote Access Networks Introduction

WAN Specification

WAN Connections

Permanent/Dial-up Connections

Using Cisco's Web Site

### 2. Cisco Solutions to Remote Access Needs

Cisco Products for Remote Connections

Assembling and Cabling the WAN Components

Telecommuting

Remote Access

Small Routers and Access Servers

Interoffice

Mid-size Routers

### 3. Enabling On Demand Connections

Configuring Asynchronous Connections with Modems

Accessing the Central Site with Windows 95

Modem AT Commands

### 4. Controlling Network Access

Configuring PPP

PAP and CHAP

Dial on Demand Routing

Dial Backup

WAN Optimization

Callback with PPP

### 5. Accessing the Central Site with Win 95

Configure Windows 95 Dial-up Connection

Verify Windows 95 Dial-Up Connection

### 6. Enhancing On Demand Connectivity

Using ISDN to Enhance Remote Connectivity

Using DDR to Enhance Remote Connectivity

Optimizing Use of DDR Interfaces

### 7. Optimizing the Use of DDR Interfaces

DDR Overview

Configuring DDR

Dialer Profile Overview

Configure Dialer Profile

Verify Dialer Profile Configuration

## 8. Configuring a Cisco 700 Series Router

Cisco 700 Series Overview  
Configure a 700 Series Router

## 9. Enabling Permanent Connections to the Central Site

Establishing an X.25 Connection  
Establishing a Dedicated Frame Relay Connection  
Controlling Traffic Flow with Traffic Shaping  
Enabling a Backup to the Permanent Connection  
Optimizing Traffic on Dedicated WAN Connections

## 10. Managing Network Performance

Queuing  
Weighted Fair Queuing  
Overview  
Configuration  
Priority Queuing  
Overview  
Configuration  
Custom Queuing  
Overview  
Configuration  
Verifying Queuing Operation  
Compression  
Optimizing traffic flow  
Configuration

## 11. Scaling IP Addresses Using NAT and AAA Authentication

Scaling IP Networks with PAT  
Scaling IP Networks with NAT  
Using AAA to Scale Access Control in an Expanding Network

## 12. Troubleshooting

Meaning of Useful Show Commands  
Common Debug Commands

Hands-On Lab 1: Selecting Cisco products for remote configurations Hands-On Lab 2: Assembly and cabling of the LAB networks Hands-On Lab 3: Configuring Asynchronous connections with modems Hands-On Lab 4: Configuring PPP and controlling network access with PAP and CHAP Hands-On Lab 5: Configuring a Windows 95 dial-up connection Hands-On Lab 6: Using ISDN and DDR to enhance remote connectivity Hands-On Lab 7: Using dialer profiles to enhance DDR Hands-On Lab 8: Configuring a Cisco 700 series router Hands-On Lab 9: Using X.25 for remote access Hands-On Lab 10: Establishing a dedicated Frame Relay connection and controlling traffic flow Hands-On Lab 11: Enabling a backup to a permanent connection Hands-On Lab 12: Managing network performance with queuing and compression Hands-On Lab 13: Scaling IP addresses with Network Address Translation (NAT)  
Hands-On Lab 14: Using AAA to scale access control in an expanding network

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